

Racal Communications

18 September, 1996

Racal Communications, Inc.
5 Research Place
Rockville, Maryland 20850
Tel (301) 948-4420
Fax (301) 948-6015

William F. Caton, Secretary
Federal Communications Commission
Room 222
1919 M Street N. W.
Washington, D. C. 20554

DOCKET FILE COPY ORIGINAL

Dear Mr. Secretary:

Racal Communications, Inc. respectfully submits the enclosed comments on the FCC's Notice of Proposed Rule Making (NPRM) 96-86. We appreciate the opportunity to participate in such an important endeavor.

Sincerely,



Mitchell H. Herbets
Vice President
Program Management and Marketing

enclosure

MAIL ROOM

SEP 20 1996

RECEIVED

No. of Copies rec'd 0
List A B C D E

RACAL

FCC MAIL ROOM

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20544

SEP 20 1996

RECEIVED

In the Matter of)	
)	
)	
)	
The Development of Operational,)	WT Docket No. 96-86
Technical, and Spectrum)	
Requirements for Meeting)	
Federal, State and Local Public)	
Safety Agency Communication)	
Requirements Through the)	
Year 2010)	

COMMENTS

INTRODUCTION

Racal fully supports the PSWAC and urges the FCC to adopt the PSWAC recommendations.

GENERAL COMMENTS

Racal Background

Racal is an international electronics company with annual revenues exceeding \$1.6 billion. Racal is engaged in a variety of businesses including being a leading supplier of radio communications equipment to military and para-military organizations worldwide. Accordingly, Racal is qualified to discuss issues regarding radio communications and emerging technology.

Summary

Racal believes that two of the major points that must be considered in the final Rule Making is that of interoperability and competition. As is clearly pointed out in the Notice, both elements are essential if the requirements of public safety organizations are to be met.

The only manner in which to ensure both interoperability and competition is to mandate the use of a communications standard which is readily available to equipment suppliers. The APCO Project-25 standard meets that need and is available today.

As a signer of the APCO Project-25 MOU, for a number of years Racal has been a participant in the Project-25 standards formulation process. We have announced our intention to offer Project-25 equipment on our own and through a partnership with another LMR equipment manufacturer.

Racal brings to the LMR market the capabilities of a large company along with very exciting digital radio technology. Our current capabilities, developed for federal and military users, include a fully digital VHF radio that weighs approximately 18 grams, including the battery. We would not be entering this market if it were not for the Project-25 standard.

APCO Project-25 Observations

Racal has been impressed with the professional manner in which the Project-25 standards have been developed. Rather than being a closed process with a predetermined outcome, Project-25 has been an open, objective forum drawing on the considerable technical talents of a wide range of participants. The merits of each proposed element of the standard have carefully considered in terms of how the proposed element meets the established needs of the users, the Public Safety Communications community.

The stated goals of Project 25 are:

1. Provide enhanced functionality with equipment and capabilities focused on public safety needs.
2. Improve spectrum efficiency.
3. Ensure competition among multiple manufacturers through open systems architecture.
4. Allow effective, efficient and reliable intra-agency and inter-agency communications.

Racal is strongly convinced that APCO Project-25 has successfully achieved these goals as noted below.

1. Provide enhanced functionality with equipment and capabilities focused on public safety needs

As a participant on the Project-25 User Needs Committee, Racal has seen first-hand how the stated needs of a broad range of Public Safety Communications users has driven the standards formulation process.

The result is the inclusion of key user required features and capabilities in the standards without restricting the individual manufacturers from offering additional capabilities to enhance the competitiveness of their products.

2. Improve spectrum efficiency

The Project-25 standards provide more effective utilization of the spectrum without forcing the premature retirement of existing 25 and 12.5 kHz FDMA analog radio equipment. When the next phase of the Project-25 standard is completed, the migration to 6.25 kHz channel widths will provide even more radio channels, again without obsoleting previously purchased equipment. The improvements derived from the digital nature of the Project-25 communications will provide increased range without resorting to excessive transmit power and improved on-channel and adjacent channel interference rejection.

3. Ensure competition among multiple manufacturers through open systems architecture

In the past, the Public Safety Communications market has been dominated by companies with proprietary trunking techniques which effectively precluded other companies from providing compatible equipment.

The Project-25 open systems architecture permits any company with the technical capability to design and market equipment that will interoperate with any other equipment made by any other manufacturer.

As a specific case in point, Racal has made the corporate decision to develop radio equipment compliant to the Project-25 standards. In reaching this decision, we carefully studied both the market and the standards and determined that there were no significant barriers to our entering the market and competing for business. We have determined that all essential Intellectual Property Rights are readily licensable on a fair and reasonable basis.

4. Allow effective, efficient and reliable intra-agency and inter-agency communications

Racal is a major supplier of communications equipment to the US and other militaries. The Racal equipment is unique in that it provides unprecedented levels of interoperability with other types of communications equipment. Recent military history demonstrates the severe problems that occur when military units that depend on each other for survival cannot communicate with each other due to poor interoperability of their radio equipment.

The Public Safety Communication user will have vastly improved interoperability in Project-25. Not only will he be able to continue to use his existing FDMA analog equipment, but the common standard will permit combined and shared systems that will greatly increase the connectivity of each radio user. Open trunking standards will permit wide area roaming of authorizer users to permit effective mutual-aid in disasters.

SPECIFIC COMMENTS

Paragraphs 40 - 42: If radio equipment must be able to cover the entire 30 - 800 MHz frequency band, or even elements throughout the boundaries of such a band, various equipment issues will result.

- The size of portable equipment will increase,
- The spectral performance of radio equipment will be adversely impacted,
- The cost of radio equipment will certainly increase,
- The RF performance of such broadband equipment will decrease.

Paragraph 57: New technologies can support the needs of the public safety user. However, only by adopting a standard can the essential need of interoperability be satisfied. Only the Project-25 standard is available as an open standard, fostering competition in the availability of equipment.

Paragraph 63: Only the Project-25 standard offers an improvement in the use of spectrum while providing for maximum interoperability. Also, the Project-25 standard is being implemented by various manufacturers, supporting competition.

Paragraph 96: Motorola, Inc. and Ericsson, Inc. dominate the LMR market as it currently exists. Both organizations are large companies with sufficient resources to develop and market their own proprietary standards. The ability of new companies to enter the LMR market is limited due to the existence of these proprietary standards. The Project-25 standard is not a proprietary standard. Accordingly, new companies, such as Racal, can offer equipment that meets an open industry standard. Adoption of the Project-25 standard will increase competition. Racal's entry into the market, due to the existence of a standard, is clear proof.

Paragraph 100: The existence of the Project-25 standard is the reason Racal has decided to enter the LMR market. Various other vendors have stated the same reason. Accordingly, the contention that Project-25 restricts competition has been proven to be factually inaccurate. Adoption of a standard, by definition, will improve interoperability. The Project-25 has been developed in order to improve interoperability, including requiring equipment to pass standardization tests. Discussion on spectral efficiency was provided in previous paragraphs.

RECOMMENDATIONS

Racal urges the FCC to:

1. Dedicate additional spectrum to provide additional channels necessary for Public Safety Communications.
2. Encourage the transition of existing Public Safety Communications to the APCO Project-25 open standard.
3. Encourage the use of shared and combined systems to further enhance the interoperability and efficiency of Public Safety Communications.